**Introduction**

The TotalTrack® Video Laryngeal Mask (VLM) (Medcom Flow Barcelona) is a new device which combines a disposable intubating laryngeal mask with a reusable video system (VideoTrack®), enabling tracheal intubation under video guidance with minimal intervention in the airway.

The device incorporates a supraglottic airway with power pack and isolation channel (for the LED light source, video camera and display), rigid introducer, supraglottic suction port, nasogastric tube introducer, and a channel to allow loading of the pre-selected tracheal tube.

The TotalTrack® VLM has been proposed for multiple uses, however, no objective documentation of the efficacy of this device existed at the time of its initial use. We evaluated the device in 60 patients under general anaesthesia with neuromuscular blockade. Primary outcomes were laryngeal mask seal pressures, and success rate of tracheal intubation through the device.

**Methods**

Departmental and institutional ethical approval was granted to recruit 60 adult patients with written informed consent into a prospective, descriptive study. Sample size was calculated on the basis of the feasibility of the device and the fact that at least 50% of the study population would require intubation with the device. A three investigator auditing panel, more than half by anaesthetic experience were trained in the use of the TotalTrack.

**Results**

**Intubation Rates and the Ventilation Neuramucular Blockade**

<table>
<thead>
<tr>
<th>Patient Demographics &amp; Airway</th>
<th>Mean (SD)</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (yrs)</td>
<td>43.1 (14)</td>
<td>18-73</td>
</tr>
<tr>
<td>Height (m)</td>
<td>175 (10)</td>
<td>150-189</td>
</tr>
<tr>
<td>BMI (kg/m²)</td>
<td>25.5 (4)</td>
<td>14-34</td>
</tr>
<tr>
<td>Peak Inspiratory Pressure (cmH₂O)</td>
<td>37 (9)</td>
<td>20-41</td>
</tr>
</tbody>
</table>

**Characteristics**

- ASA 1 or 2: 2 patients
- ASA 3 or greater: 1 patient
- Age < 18 years: 8 patients
- Age > 65 years: 3 patients
- Elective surgery of 30-120 minutes: 1 patient
- Anaesthesia induction: 18 patients
- Laryngeal mask: 30 patients
- Nasogastric tube: 60 patients
- FASTRACH™: 9 patients
- CTRACH™: 9 patients
- TotalTrack® Laryngeal Mask: 30 patients
- TotalTrack® Introducer: 30 patients
- Medcom, Barcelona: 30 patients

**Gastric Leak and Maximum Inflation Pressures of the Laryngeal Mask Component**

<table>
<thead>
<tr>
<th>Mean (SD)</th>
<th>Range</th>
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<tr>
<td>Glottic view was possible in 59/60 cases.</td>
<td>Tracheal intubation was successful in 59/60 (98.3%), with a first attempt success rate of 90.8%.</td>
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</table>
| Mean intubation time was 9.5 seconds (95% CI 14.0-19.7/SD 10.6). | In 29 cases, intubation was not achieved in two attempts. The need for repositioning to gain appropriate view occurred in 25%.
| Mean total apnoea was 25.6 seconds (95% CI 20.4-30.6/SD 19.3). |

**Discussion**

The TotalTrack® VLM enables supraglottic ventilation, as well as nasogastric tube placement and supraglottic suctioning. It is quickly and easily inserted, with only minimal disruption in our study due to the device’s design. The supraglottic component resembles similar second generation airways, but the linear anesthetic experience generated by the TotalTrack® VLM is comparable to those published for the gold standard intubation mask.

**Conclusion**

The TotalTrack® VLM is a novel disposable intubating supraglottic mask which allows for tracheal intubation under constant vision with minimal interruption of ventilation. This provides clinicians and their patients with additional safety and allows for minimizing total apnoea time and potential injury to the airway. In our small series, it functions well as a supraglottic airway with a good intubation success rate.
A New Option in Airway Management: Evaluation of the TotalTrack® Video Laryngeal Mask

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- Novel disposable intubating laryngeal mask
- Allows for tracheal intubation under constant vision with minimal interruption of ventilation. Minimises total apnoea time and potential injury to the airway.
- Functions well as a supraglottic airway with a good intubation success rate.

**Intubation Success Rates (n=60)**

- Overall success: Ventilation = 98 %, Intubation = 95%
- Median leak 32 cmH₂O
- Static leak and maximum inflation pressures (cmH₂O)

**Graphs and Images**

- Fully assembled TotalTrack (without ETT)
- Intubation Success Rates (n=60)
- VideoTrack, TotalTrack Laryngeal Mask, TotalTrack Introducer